FEMALE.—General size, color, and characteristics similar to male. Length 7 mm. Maxillary palpi five segmented, third segment about equal in length to fifth. No scales on wings. Genitalia as in fig. 15. Eighth tergum crescent-shaped, curved ventrad further than others; sternum semi-circular lateral portions joined by a narrow strap; entire mesal sternal area incised to form a large arcuate light sclerotized area. Ninth tergum reduced to a slender sclerite, ninth sternum an elongate narrow sclerite ventrad to tenth. The tenth tergum declivous, truncate distally, from dorsal aspect, fig. 15A, mesal area non-pigmented, the clear membranous area appears as a narrow incised notch. Bursa copulatrix, fig. 15B, narrow, dorsal arm long, narrow, rounded, lateral lobes triangular, median aperture narrow.

Holotype male.—16 MILES S. E. RUCH, JACKSON COUNTY, OREGON, FRENCH GULCH ROAD, 22 May 1961, Joe Schuh. Allotype female. Same data as for holotype. Paratypes nine males, one female, same data as for holotype.

New Species of Elaphidionini from Mexico

(Coleoptera : Cerambycidae)

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The following new species of Mexican elaphidionine Cerambycidae are described at this time to make their names available for other studies now in progress.

Support through National Science Foundation Grant GB-4944X is gratefully acknowledged. Material was also collected during expeditions sponsored by the Associates in Tropical Biogeography, University of California, Berkeley.

Aneflus (Protaneflus) sericatus Chemsak and Linsley, new species

(Fig. 1)

MALE.—Form large, subcylindrical; integument reddish brown, appendages darker; pubescence white, uniformly fine, silky, appressed, obscuring surface. Head almost impunctate on vertex, median channel extending to about posterior margin of eyes; pubescence dense, appressed, ivory colored, erect hairs very sparse; antennae 12-segmented, longer than body, segments three to five spined internally, sixth dentate, segments from third expanded at apices, pubescence dense, very fine, pale, appressed, also with very short, yellowish, erect pubescence on each segment, apices of segments with a few long suberect hairs which diminish in length toward apex, third segment subequal to scape in length, fourth slightly longer than third, fifth longer than fourth, sixth to eleventh subequal to fifth, twelfth subequal to fourth. Pronotum longer than broad, cylindrical, sides feebly rounded, apex with a narrow, glabrous, impressed margin, base slightly constricted; disc almost plane,

finely, shallowly, transversely rugulose, center with a glabrous line and two vague shallow calluses on each side at anterior end of median line forming a T; pubescence dense, appressed, fine erect hairs sparse; prosternum deeply impressed, transversely rugose with several coarse, shallow punctures near base of prosternal process, front coxal cavities widely open behind; pubescence dense, appressed; meso- and metasternum densely clothed with appressed, silky pubescence. Elytra over three times as long as broad, subparallel; basal punctures coarse, shallow, irregular, each puncture bearing a suberect yellowish seta; pubescence uniformly dense, silky, white, appressed, with yellowish suberect hairs sparsely interspersed; each elytron vaguely bicostate; apices bispinose, outer spine longer. Legs stout, densely pubescent. Abdomen densely clothed with pale appressed pubescence which obscures the surface; apex of last sternite emarginate truncate. Length, 29 mm.

Holotype male (California Academy of Sciences) from 49 MILES S. MUNA, YUCATAN, MEXICO, 14 July 1963 (W. A. Foster).

The combination of characters of this species make it difficult to place into the key to *Protaneflus* (Chemsak & Linsley, 1965). It is quite distinctive by the fine silky pubescence which obscures the surface. In quality this pubescence is similar to that of *Aneflus prolixus prolixus* LeConte from Baja California.

Aneflus (Aneflus) maryannae Chemsak and Linsley, new species

(Fig. 2)

MALE.—Form stout, somewhat compressed; color dark reddish brown, shining; pubescence moderately dense, consisting of an irregular layer of fine appressed hairs with longer recurved, golden hairs numerously interspersed. Head coarsely, shallowly, confluently punctate on vertex, fine depressed pubescence sparse; antennae longer than body, segments three to seven spinose at apex, carinae prominent beginning with fifth segment, basal segments thinly white pubescent, outer segments clothed with very short, appressed, golden pubescence, scape subcylindrical, third segment slightly shorter than first, fourth subequal to third, fifth longer than fourth, sixth and seventh subequal, longer than fifth, eighth to tenth subequal, shorter than seventh, eleventh longest, strongly appendiculate. Pronotum slightly broader than long, sides sinuate, base feebly impressed; disc shining, transversely, confluently rugose, sides coarsely punctate; pubescence fine, yellowish white, depressed with long erect hairs interspersed, depressed pubescence denser at sides; prosternum strongly impressed, irregularly, shallowly punctate, moderately densely pubescent, coxal cavities open behind; meso- and metasternum shallowly punctate, finely densely pubescent. Elytra about three times as long as broad, subparallel; basal punctures coarse, subconfluent, becoming fine and shallow toward apex; each elytron vaguely costate; pubescence fine, dense, appressed, irregular, not obscuring surface, with longer suberect hairs interspersed throughout; apices prominently bispinose. Legs slender, moderately densely pubescent. Abdomen finely punctate, moderately pubescent, shining; apex of last sternite truncate. Length, 23–30 mm.

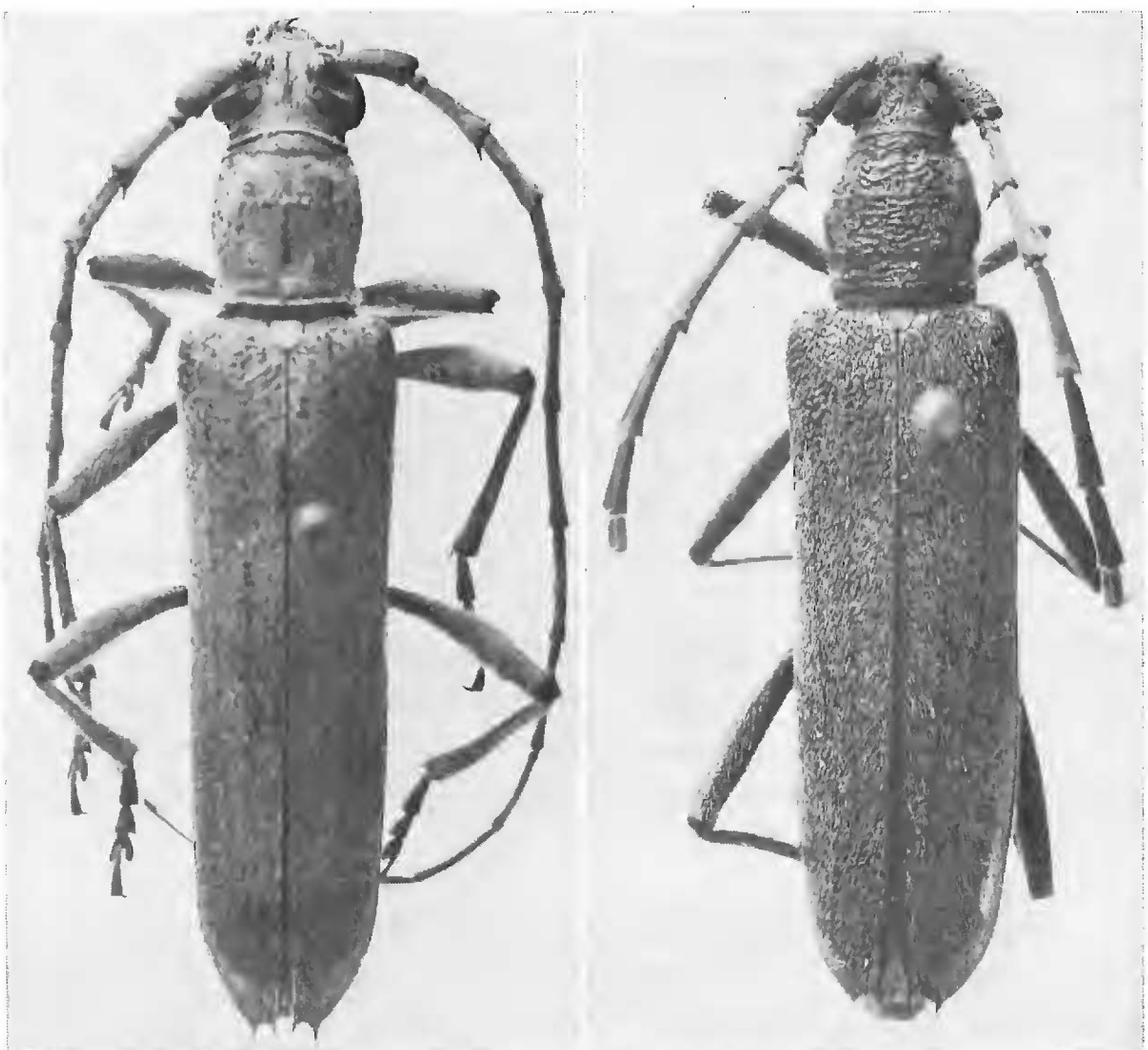


Fig. 1, left: *Aneflus* (*Protaneflus*) *sericatus* Chemsak and Linsley, male; Fig. 2, right: *Aneflus* (*Aneflus*) *maryannae* Chemsak & Linsley, male.

FEMALE.—Antennae extending a little beyond middle of elytra; abdomen with last sternite truncate at apex. Length, 28 mm.

Holotype male (California Academy of Sciences) from 5 MILES N. MAZATLAN, SINALOA, MEXICO, 1 July 1965 (J. A. & M. A. Chemsak, E. G. & J. M. Linsley); allotype, 5 miles N. Mazatlan, 27 June 1965 (J. A. & M. A. Chemsak, E. G. & J. M. Linsley); paratypes as follows: 15 males, 5 miles N. Mazatlan, 1 July 1965 (Chemsaks & Linsleys); 1 male, 10 miles S. Mazatlan, 3 July 1965 (Chemsaks & Linsleys); 1 male, 1 female, 6 miles E. Villa Union, Sinaloa, 30 June 1965 (Chemsaks & Linsleys); 2 males, 5 miles N. Mazatlan, 24 July 1964, 27 July 1964 (J. A. Chemsak, J. A. Powell).

Structurally this species is near *A. calvatus* Horn but the fine appressed pubescence of *A. maryannae* will readily separate the two. In the key to *Aneflus* (Chemsak & Linsley, 1963) *A. maryannae* comes out in the couplet with *A. paracalvatus* Knull. However the non-callused

pronotal disc and more uniform pubescence of *A. maryannae* will serve to separate the two species.

We dedicate this species to Mrs. J. A. Chemsak whose collecting efforts are greatly appreciated.

Ironeus submetallicus Chemsak and Linsley, new species

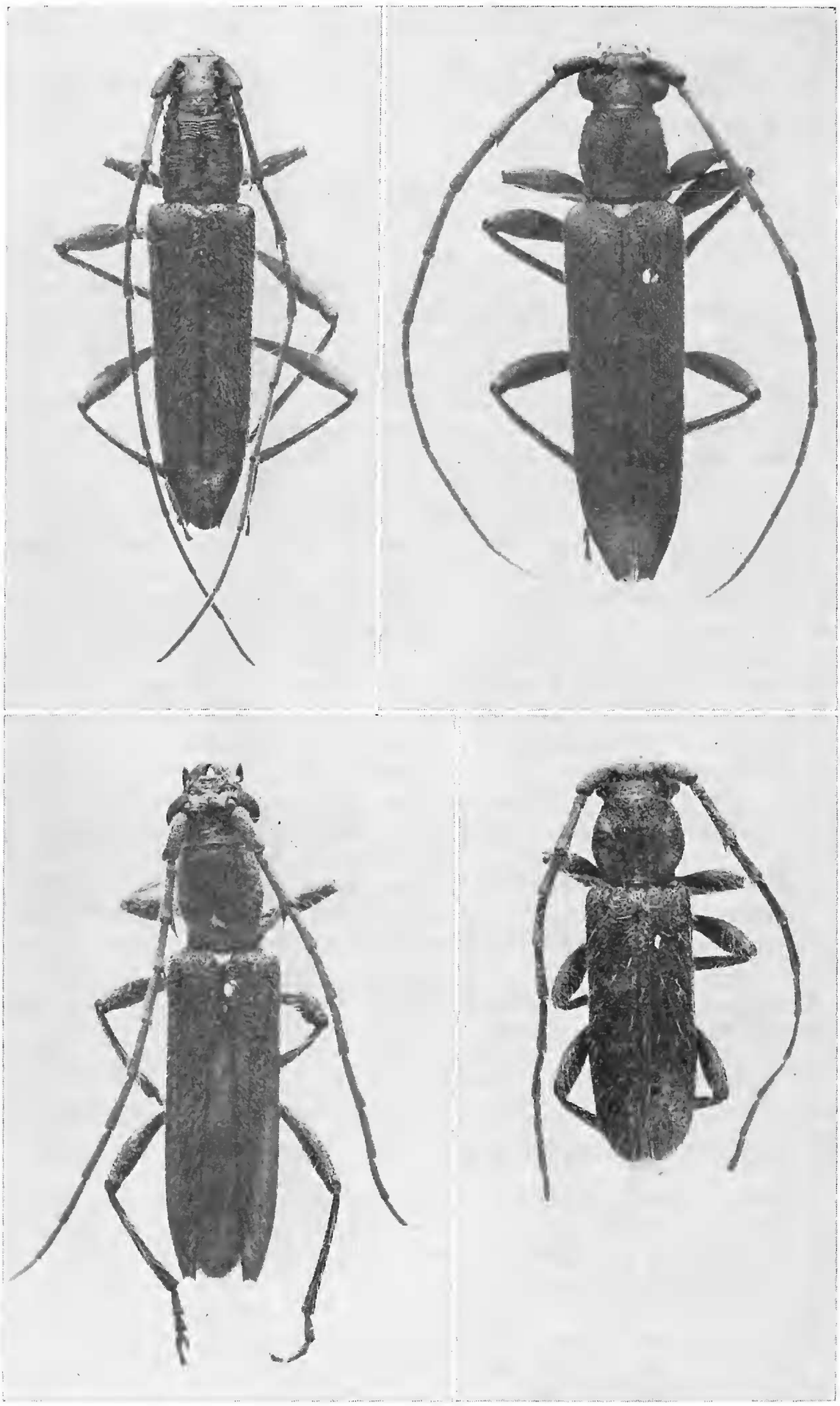
(Fig. 3)

MALE.—Form moderate sized to large, sides tapering posteriorly; integument dark reddish brown to black with a submetallic violaceous to greenish luster, femora reddish. Head with front sparsely punctate and pubescent; vertex plane, sparsely, irregularly punctate, subglabrous; palpi unequal, apical segments not dilated; eyes moderately finely faceted, upper lobes small; antennae slender, extending about 4 segments beyond elytra, third segment with a moderate sized spine at apex, spines on segments 4 to 7 gradually decreasing in length, segments 3 to 10 carinate above and below, third segment much longer than scape, fourth shorter than third, fifth subequal to third, eleventh slightly appendiculate, segments from third moderately densely clothed with short pale appressed pubescence, long erect internal hairs decreasing in length and number toward apex. Pronotum longer than broad, widest at middle, sides rounded, apex and base slightly constricted; disc transversely plicate with scattered punctures; sides closely, subopaquely punctate; sides and base clothed with very fine appressed, pale pubescence, long erect hairs numerous at sides over apical half; prosternum impressed, deeply punctate over basal two-thirds, apical third glabrous, punctate area densely clothed with fine appressed pubescence, intercoxal process barely expanded at apex, coxal cavities wide open behind; meso- and metasternum densely pubescent at sides, middle of metasternum subglabrous. Scutellum densely white pubescent. Elytra about 3 times as long as broad, sides tapering; basal punctures well separated, becoming closer toward middle but still separated by at least a puncture diameter; pubescence rather sparse, fine, fairly short, suberect and recurved; apices obliquely emarginate, outer angles spined, inner angles dentate. Legs slender, femora shallowly punctate, tibae carinate. Abdomen subglabrous medially, densely clothed with fine appressed pubescence at sides; apex of last sternite truncate. Length, 11–19 mm.

FEMALE.—Form similar. Antennae shorter. Prosternum not deeply punctate. Abdomen with apex of last sternite narrowly rounded. Length, 11–18 mm.

Holotype male, allotype (American Museum of Natural History) and 29 paratypes (15 males, 14 females) from ARMERIA, COLIMA, MEXICO, 21 July 1953 (D. Rockefeller Mex. Exp. 1953, C. and P. Vaurie).

Additional paratypes as follows: 1 male, 2 females, 6 miles S. Culiacan, Sinaloa, 6 August 1964, at black and white lights (J. A. Chemsak, J. Powell); 1 female, Escuinapa, Sinaloa (J. H. Batty); 1 female, 8 miles S. Elota, Sinaloa, 2 July 1963 (F. D. Parker, L. A. Stange); 1 male, Los Mayos, Sinaloa, 24 July 1952 (J. D. Lattin); 1 male, Mazatlan, Sinaloa, 27 June 1956 (R. and K. Dreisbach); 1 female, 4 miles S. Villa Union, Sinaloa, 23 June 1963 (J. Doyen); 1 female, 27 miles E. Villa Union, 26 July 1964 (H. F. Howden); 1 male, 4 females, Apatzingan, Michoacan, 5 August 1940 (Hoogstraal Expd. 40); 1 male, Apatzingan, 5 August



1941, at light (R. Haag); 1 female, Acapulco, Guerrero, 21 June 1935 (M. A. Embury); 1 female, Alpuyeca, Morelos, 3 July 1951 (P. D. Hurd); 1 female, Tehuantepec, Oaxaca, 26 May 1951 (Ana Maria de Buen); 1 male, Tehuantepec, 24 June 1955; 2 females, Tehuantepec, 23 June 1965 (A. Raske); 1 female, El Salto, Escuintla, Guatemala, 1934 (F. A. Bianchi).

The transversely wrinkled pronotum, submetallic luster of the integument, and apparently always reddish femora will distinguish this species from the other known *Ironeus*.

Aneflomorpha rufipes Chemsak and Linsley, new species
(Fig. 4)

MALE.—Form elongate, sides subparallel; integument dull black, femora reddish; pubescence short, pale, recurved. Head with front rather finely, densely punctate except for glabrous median area, vertex confluently punctate, sparsely pubescent; interantennal impression deep; palpi unequal, apical segments dilated; eyes prominent, as broad across as width of pronotum; antennae extending about 2 segments beyond elytra, third segment with a short spine at apex, remaining segments unarmed, segments from third carinate above, segments from third opaque, densely clothed with minute appressed pubescence, basal segments with a few long erect hairs internally, third segment longer than fourth or fifth, fifth longer than fourth, eleventh appendiculate. Pronotum as long as broad, sides broadly rounded; disc deeply, contiguously punctate except for glabrous median callus and two vague calluses on each side of middle; pubescence sparse, very short and appressed with a few long suberect hairs interspersed; prosternum impressed, finely, scabrously punctate on basal half, pubescence fine, appressed, intercoxal process barely expanded at apex, coxal cavities wide open behind; meso- and metasternum finely, scabrously punctate, densely clothed with pale appressed pubescence especially at sides. Elytra about 3 times as long as broad; surface finely, densely but separately punctate; pubescence rather dense, short, recurved and depressed, longer suberect hairs sparsely arranged in rows down suture and middle of each elytron; apices obliquely emarginate. Legs slender, femora reddish, densely punctate; tibiae carinate. Abdomen finely, densely punctate, densely pubescent; apex of last sternite shallowly emarginate. Length, 12–16 mm.

FEMALE.—Form similar. Antennae about as long as body. Abdomen with apex of last sternite truncate. Length, 15–17 mm.

Holotype male, allotype (Canadian National Collection, Ottawa) from 5 MILES N. MAZATLAN, SINALOA, MEXICO, 5–7 August 1964 (H. F. Howden). Paratypes as follows: 1 female, 5 miles N. Mazatlan, Sinaloa, 9 August 1964 (Howden and Lindquist); 1 male, Mazatlan, 22 July 1954 (M. Cazier, W. Gertsch, Bradts); 1 male, "Venedio" (El Vene-

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Fig. 3, upper left: *Ironeus submetallicus* Chemsak and Linsley, male; Fig. 4, upper right: *Aneflomorpha rufipes* Chemsak & Linsley, male; Fig. 5, lower left: *Aneflomorpha martini* Chemsak & Linsley, male; Fig. 6, lower right: *Anelaphus nitidipennis* Chemsak & Linsley, male.

dillo, near Mazatlan), 10 July 1918; 1 male, 4 miles S. Villa Union, Sinaloa, 23 June 1963 (J. Doyen); 1 female, 33 miles E. Villa Union, 9 August 1964 (Howden).

This is the most distinctive species of *Aneflomorpha* known. The rather dull black integument, reddish femora, and short pubescence make *A. rufipes* readily recognizable.

Also assignable to this species but possibly subspecifically distinct is a population from the state of Oaxaca. These specimens are similar in form and color but tend to have the elytral punctures more widely separated, shorter, sparser elytral pubescence, and barely emarginate apices of the elytra. Because of the lack of material from intermediate areas, we do not choose to treat the Sinaloa and Oaxaca populations as distinct at this time. Material examined: Oaxaca; 1 male, Tehuantepec, 12 July 1955 (P. and C. Vaurie); 1 male, 1 female, Tehuantepec, 30 June, 2 July (Fredk. Knab); 1 male, 1 female, 56 miles NW. Tehuantepec, 27 July 1963 (J. Doyen); 3 females, 8 miles N. La Ventosa, 20 July 1963 (J. Doyen, W. A. Foster); 1 female, 23 miles S. Matias Romero, 14 August 1963 (F. D. Parker, L. A. Stange); 1 male, 20 miles E. El Cameron, 21 July 1956 (J. W. MacSwain).

Aneflomorpha martini Chemsak and Linsley, new species

(Fig. 5)

MALE.—Form elongate, moderate sized, sides subparallel; integument shining, dark reddish brown, antennae paler; pubescence moderately dense, depressed and erect. Head with front irregularly punctate except for median glabrous impressed area; vertex impressed, shallowly punctate; pubescence sparse, depressed, with a few long erect hairs interspersed; palpi slightly unequal, apical segments broadly dilated; upper lobes of eyes very small, widely separated dorsally; antennae stout, extending about one segment beyond elytra, third segment with a stout spine at apex, spines on segments 4 to 7 gradually decreasing in size, segments 3 to 10 carinate dorsally, third segment subequal to scape in length, fourth subequal to third, fifth slightly longer, scape densely punctate, segments from third densely clothed with short, yellowish, appressed pubescence, long erect hairs numerous internally on basal segments. Pronotum longer than broad, sides rounded, base shallowly constricted; disc coarsely, deeply punctate except for an elongate glabrous postmedian callus; sides finely rugosely punctate; pubescence rather sparse on disc, long, erect, sides and basal margin densely clothed with fine appressed pubescence, long erect hairs numerous at sides; prosternum impressed, densely pubescent except apex, intercoxal process expanded at apex, coxal cavities narrowly open behind; meso- and metasternum densely clothed with short appressed pubescence except at middle. Scutellum densely clothed with white, silky, appressed pubescence. Elytra almost 3 times as long as broad; punctures behind scutellum coarse, close; each elytron vaguely costate basally; pubescence rather dense, short, recurved, with numerous long erect hairs interspersed; apices emarginate, angles dentate. Legs moderate, femora densely punctate; tibiae carinate.

Abdomen very finely, densely punctate at sides, densely clothed with short appressed pubescence; apex of last sternite shallowly emarginate truncate. Length, 16 mm.

Holotype male (Canadian National Collection) from 5 MILES N. MAZATLAN, SINALOA, MEXICO, 5–7 July 1964 (J. E. H. Martin).

This species superficially resembles *A. tenuis* (LeConte) but the fine appressed pubescence of the pronotum, recurved hairs of the elytra, and the antennal spines of *A. martini* will readily separate the two species.

We name this species in honor of J. E. Martin for his collecting efforts.

Anelaphus nitidipennis Chemsak and Linsley, new species

(Fig. 6)

MALE.—Form moderate sized, sides parallel; integument shining, dark reddish brown, elytra paler down suture. Head coarsely, confluently punctate, antennal tubercles obtusely elevated, vertex transversely impressed; palpi unequal, apical segments dilated; eyes coarsely faceted, deeply emarginate, upper lobes small; pubescence sparse, golden, short and depressed and long and erect; antennae stout, 11-segmented, extending about two segments beyond elytra, segments 3 to 7 spined at apices, eighth segment dentate, segments 3 to 9 carinate above, scape cylindrical, shorter than third segment, fourth shorter than third, fifth slightly longer than fourth, eleventh segment flattened, appendiculate, segments 3 to 6 moderately clothed with long erect hairs, short appressed pubescence sparse. Pronotum broader than long, sides rounded; base moderately constricted and impressed; disc convex, coarsely confluently punctate except for a vague glabrous callus behind middle; each side of middle with two usually coalesced spots of very fine appressed pubescence, long erect hairs sparsely interspersed; prosternum impressed, densely pubescent on apical half, basal half shining, front coxal cavities wide open behind; meso- and metasternum deeply punctate, scabrous at sides, long suberect hairs sparse at middle, sides densely clothed with fine appressed pubescence. Elytra over 2½ times as long as broad, sides subparallel; disc impressed behind scutellum and on each side at basal one third; sutural pale area extending from around scutellum usually to apical one third; punctures at base moderately coarse, deep, well separated; pubescence sparse, consisting of short depressed, recurved golden pubescence and long, whitish, erect hairs; apices rounded to subtruncate. Legs stout; femora densely punctate; tibiae carinate. Abdomen shining, sparsely punctate and pubescent; apex of last sternite truncate, very shallowly emarginate. Length, 12–15 mm.

FEMALE.—Form similar. Antennae shorter than body. Femora more slender. Abdomen with apex of last sternite narrowly rounded. Length, 13 mm.

Holotype male, allotype (California Academy of Sciences) from 6 MILES S. CULIACAN, SINALOA, MEXICO, 6 August 1964, at black and white lights (J. A. Chemsak, J. Powell). Paratypes as follows: 1 male, 5 miles N. Mazatlan, Sinaloa, Mexico, 27 July 1964, at black and white lights (Chemsak and Powell); 1 male, 10 miles W. Colima, Colima,

Mexico, 1 August 1954 (M. Cazier, W. Gertsch, Bradts); 1 male, 3 miles NW. Totalapan, Oaxaca, Mexico, 6 July 1958 (Univ. Kansas Mex. Expedition).

The confluently punctate, subopaque pronotum, shining elytra, and dual type of pubescence will readily separate *A. nitidipennis* from other known species of *Anelaphus*.

Literature Cited

Chemsak, J. A. and E. G. Linsley. 1963. Synopsis of the known Mexican species of *Aneflus*. Bull. Brooklyn Entomol. Soc., 63: 80–96, 3 pls.

1965. The elaphidionine subgenus *Protaneflus*. Proc. Entomol. Soc. Washington, 67: 24–28.

Observations of the Nesting Habits of *Euparagia scutellaris* Cresson

(Hymenoptera : Masaridae)

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University of California, Davis

Discovery of a colony of the rare masarid wasp *Euparagia scutellaris* Cresson in June 1966, at the University of California's Sagehen Creek Station, prompted a review of the published literature on this species. We found that little is known about *Euparagia* life hisory except for *E. scutellaris* which Williams (1927) first observed nesting in hard ground in the vicinity of Lake Tahoe, California. The nest of each wasp was "surmounted by a delicate and slender curved tube of clay." These nests were provisioned with curculionid larvae, questionably determined as *Ceutorhynchus* sp. This predatory habit is particularly interesting since it is the only one known in the family Masaridae, all of the other members collecting nectar and pollen.

The genus *Euparagia* consists of seven described species and is confined to the southwestern United States (California, New Mexico, Texas, Arizona, Nevada) and northern Mexico (Richards, 1962). Bohart (1948) referred to the plants visited by *Euparagia*. These included *Eriogonum trichopodum*, *E. trichopes*, *E. inflatum*, *E. reniforme*, *Euphorbia*, *Croton*, and *Larrea*. In personal communication with R. M. Bohart, he mentioned collecting *Euparagia* on *Oenothera* and *Calochortis*.

All known species of the genus are small and stout. They are dis-